



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

The Ocean Decade Heritage Network

Citation for published version:

Trakadas, A, Firth, A, Gregory, D, Elkin, D, Guerin, U, Henderson, J, Kimura, J, Scott-Ireton, D, Shashoua, Y, Underwood, C & Viduka, A 2019, 'The Ocean Decade Heritage Network: Integrating cultural heritage within the UN Decade of Ocean Science 2021–2030', *Journal of Maritime Archaeology*, vol. 14, pp. 153-165. <https://doi.org/10.1007/s11457-019-09241-0>

Digital Object Identifier (DOI):

[10.1007/s11457-019-09241-0](https://doi.org/10.1007/s11457-019-09241-0)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Journal of Maritime Archaeology

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.





The Ocean Decade Heritage Network: Integrating Cultural Heritage Within the UN Decade of Ocean Science 2021–2030

Athena Trakadas¹ · Antony Firth² · David Gregory¹ · Dolores Elkin³ · Ulrike Guerin⁴ · Jon Henderson⁵ · Jun Kimura⁶ · Della Scott-Ireton⁷ · Yvonne Shashoua¹ · Chris Underwood⁸ · Andrew Viduka⁹

Published online: 22 August 2019
© The Author(s) 2019

Abstract

The Decade of Ocean Science for Sustainable Development 2021–2030 is a UN initiative that promotes a common framework for supporting stakeholders in studying and assessing the health of the world's oceans. The initiative also presents a vital opportunity to improve the integration of archaeology within the marine sciences. With the First Global Planning Meeting of the Decade held in Copenhagen at the National Museum of Denmark in May 2019, steps are already being taken to make the best of this opportunity, and the resulting creation of an Ocean Decade Heritage Network is proposed as a way forward to continue to raise awareness in the cultural heritage community about the Decade and to facilitate information sharing regarding this endeavour.

Keywords Cultural heritage · Marine sciences · UN Sustainable Development Goal 14 · UN Decade of Ocean Science for Sustainable Development 2021–2030 · UNESCO-IOC

Introduction

In 2017, the United Nations (UN) announced the launch of a new initiative, the Decade of Ocean Science for Sustainable Development 2021–2030 (hereafter Decade), which has the tagline “the science we need for the ocean we want”. This initiative is directed at supporting “efforts to reverse the cycle of decline in ocean health and gather ocean stakeholders worldwide behind a common framework that will ensure ocean science can fully support countries in creating improved conditions for sustainable development of the Ocean” (UNESCO n.d.a). The world's oceans are of undoubted importance in stabilising climate, but numerous recent studies have revealed that this and general human well-being are being impacted by multiple stressors on marine systems. As a result, the UN, via the Decade, has proposed and is developing a focused approach to addressing these issues and managing them sustainably through ocean observations and research “to predict the consequences of change, design mitigation and guide adaptation” (UNESCO n.d.a). The intended outcomes

✉ Athena Trakadas
athena.lynn.trakadas@natmus.dk

Extended author information available on the last page of the article

of the Decade are expressed in terms of the UN's Sustainable Development Goals (SDGs) (UN n.d.); the Decade complements SDG 14 "Life below Water" (SDG n.d.), aimed at protecting marine ecosystems, but the point is been strongly made that marine sciences under the auspices of the Decade should contribute across all 17 SDGs.

UNESCO's Intergovernmental Oceanographic Commission (IOC) has been tasked by the UN General Assembly "to prepare and coordinate the development of an Implementation Plan for the Decade during the Preparatory Phase (2018–2020)" through plans of science, capacity building, resource mobilisation, and communications and engagement (UNESCO n.d.b). Four interlinked mechanisms, an Executive Planning Group (EPG), stakeholder forums, regional workshops, and Global Planning Meetings (GPM), will facilitate the implementation of the Decade. In the late summer of 2018, an application process was opened for members of the EPG, and at the same time, a call was put out through the IOC for institutions to host regional workshops, stakeholder forums, and GPMs over the next two years.

Additionally, a draft "Roadmap for the UN Decade of Ocean Science for Sustainable Development" was disseminated to IOC Member States, UN bodies, and institutional partners of the IOC. The Roadmap is designed to serve as a preliminary guide for the steps and processes to develop the Implementation Plan of the Decade, whilst also outlining preliminary objectives and identifying governance and structural arrangements. A revised draft Roadmap was made available on-line on the IOC's website in June 2018 (UNESCO n.d.c).

The Decade came to the attention of those in the field of Underwater Cultural Heritage (UCH) after its announcement in the spring of 2018, especially through a presentation at UNESCO in Paris during the 9th Meeting of the Scientific and Technical Advisory body (STAB) of the 2001 *Convention on the Protection of the Underwater Cultural Heritage* (hereafter the Convention), and the 6th Meeting of the UNITWIN Underwater Archaeology Network.

Although the revised Roadmap, paragraph 9 notes: "'Ocean Science' should be interpreted broadly as encompassing: social sciences and human dimensions" (UNESCO n.d.c: 5), these subjects are not discussed in the subsequent 51 pages of the document. Heritage is almost completely omitted except for two general references related to stakeholders.¹ However, in the same document's seven Decade Research and Development Aims, as well as the proposed activities, it is clear that UCH and interdisciplinary maritime/marine archaeological activities already fit well into the goals of the Decade and in fact overlap with the proposed research agendas. But if the UCH community was not involved from the start to make the wider marine science community, and our own field, aware of this potential, would we be missing the Decade boat?

It is important to understand that cultural heritage is the clear responsibility of modern states. Article 303(1) of the 1982 UN *Convention on the Law of the Sea* (UNCLOS) provides that "States have the duty to protect objects of an archaeological and historical nature found at sea and shall cooperate for this purpose" (UNCLOS n.d.: 138). Strong support for research into cultural heritage also comes from the 2001 UNESCO Convention, especially from Article 19(1):

"States Parties shall cooperate and assist each other in the protection and management of underwater cultural heritage under this Convention, including, where prac-

¹ Initially, in the zero-draft of the Decade Action Plan of the UN General Assembly in 2017, cultural heritage was not considered, but State parties argued for its, albeit limited, inclusion (Guerin, pers. comm.).

licable, collaborating in the investigation, excavation, documentation, conservation, study and presentation of such heritage.” (CPUCH n.d.).

Further supportive statements are made in the Preamble to the Convention, which sets out the view of the General Council of UNESCO:

“Acknowledging the importance of underwater cultural heritage as an integral part of the cultural heritage of humanity and a particularly important element in the history of peoples, nations, and their relations with each other concerning their common heritage, ...

Convinced of the importance of research, information and education to the protection and preservation of underwater cultural heritage, ...

Convinced of the public’s right to enjoy the educational and recreational benefits of responsible non-intrusive access to in situ underwater cultural heritage, and of the value of public education to contribute to awareness, appreciation and protection of that heritage, ...

Believing that cooperation among States, international organizations, scientific institutions, professional organizations, archaeologists, divers, other interested parties and the public at large is essential for the protection of underwater cultural heritage, ...” (CPUCH n.d.).

These few clauses show that whilst lack of integration between cultural heritage and marine sciences is all too frequent, international law provides a firm foundation for a more co-operative, connected approach. Moreover, there are, and have been, many positive examples that show just how productive interdisciplinary collaborations between archaeologists and marine scientists can be: a by no means exhaustive list includes the EU-supported Moss (Alvik et al. 2004), MACHU (Manders et al. 2009), WreckProtect (Björdal and Gregory 2011) and SASMAP Projects (Gregory and Manders 2015), the CBDAMM Project (Trakadas and Mhammdi 2018), WW II wrecks in the Gulf of Mexico (Church et al. 2007), The Australian Historic Shipwreck Preservation Project (Veth et al. 2016), and activities funded by the Rising from the Depths network (RFD n.d.). The task ahead, therefore, is to ensure that this potential is fully realised across the ten years from 2021 to 2030.

The First Global Planning Meeting

With this in mind, the National Museum of Denmark (NMD) proposed to hold the First Global Planning Meeting (1st GPM) of the Decade in the spring of 2019 in Copenhagen. By hosting the meeting, NMD wanted to take on the responsibility for promoting timely and critical marine science research initiatives world-wide, by helping shape the questions that can be asked of the marine environment inclusive of its heritage. Interdisciplinary marine science research has been undertaken at NMD and within wider Danish research for some time [e.g., the above-mentioned WreckProtect and SASMAP Projects, REMAINS of Greenland Project (Remains n.d.), and the new Marine Plastic Research Center (Mar-Plastic n.d.)], and is in tune with the museum’s aim to focus on several of the UN’s SDGs, including SDG 14. Additionally, as the IOC was established in Copenhagen in 1960, it was a homecoming of sorts to continue Denmark’s promotion of marine sciences (Ehlers 2000).

NMD’s overall aim was twofold: to seize the opportunity to ensure that a wider and more nuanced understanding of marine sciences can be defined and applied to the Decade’s

initiative; and to ensure marine archaeological research and UCH management is solidly integrated into the wider ocean science agenda. In order to accomplish this twofold aim, NMD took the following steps:

- It sought the inclusion of 12 places for leading international researchers in marine archaeology and UCH management amongst the marine scientists participating in the meeting.²
- It made provision in the programme for a side-event “Integrating UCH into the Decade”, held on the second day of the meeting, aimed at presenting the interdisciplinary approach of marine archaeological research to marine scientists and administrators.
- To underscore the position of NMD from the start, its director, Rane Willerslev, in his opening remarks of the meeting, highlighted consideration of natural and cultural heritage as an integrated whole (echoing the Roadmap’s general reference; UNESCO n.d.c: 25). These complemented the national commitment to protecting marine heritage noted by Denmark’s Permanent Delegate to UNESCO, Carsten Staur, in his opening remarks.

NMD, as national chair and co-host, worked together with IOC to ensure that a broad range of marine scientists and stakeholders were present at the meeting May 13–15, 2019 (UNESCO n.d.d). Participants included hydrographers, marine geologists, marine biologists, physical oceanographers, climatologists, meteorologists, fisheries scientists, tsunami experts, marine archaeologists, and representatives of other UN agencies and NGOs. A mixture of plenary and break-out groups was organised to facilitate international, interdisciplinary discussions across sectors that included ocean science and technology, ocean policy and sustainable development, business and industry, NGOs and civil society in order to identify deliverables and partnerships.

In parallel, with the support of the Carlsberg Foundation, the Honor Frost Foundation, and the Danish National Commission for UNESCO, a roster of marine archaeologists and UCH managers from around the world was quickly assembled to fill the dozen places that had been set aside.³ Although on a tight timescale, a preliminary document, “Cultural Heritage and the Decade of Ocean Science: Initial Outline”, was circulated amongst this group to assist in framing archaeological input through the plenary and workshop sessions, and in capitalising on the networking opportunities that the 1st GPM would provide. The Initial Outline was no more than a “working document” to provide a focal point for discussion and further development: its intention was to summarise the relationship between cultural heritage and the Decade’s objectives, themes, and priorities. The hope was to be able to explain this relationship convincingly and succinctly to other parties at the meeting and, thereby, to integrate cultural heritage in the planning and subsequent implementation of the Decade.

As in this article, the Initial Outline used the term “cultural heritage” because, whilst there are good alternative terms, it is commonly used in UN documentation. “Cultural heritage” was also preferred to “UCH”, as it encompasses coastal cultural heritage (including objects on coastal land and in intertidal areas) which might not meet the “partially or totally under water” criterion within the definition of UCH in Article 1(1)(a) of the Convention.

² The 1st GPM was limited to ca. 270 participants, but live streaming and Slido were made available for Day 1 and Day 3 via the Decade website.

³ In the end, 11 marine archaeologists and heritage managers were able to participate, joined on Day 2 by an additional five archaeologists, anthropologists, and conservators from NMD.

“Cultural heritage” has the further advantage of encompassing intangible as well as tangible heritage. The Initial Outline noted that the terms “archaeology” and/or “heritage science” might be used alongside “cultural heritage” to focus on what archaeologists do as a scientific activity, rather than on the subject matter. In addition, the decision was made to use the term “marine archaeology” instead of “maritime archaeology” to fit better into the context of existing IOC terminology, and the usage is continued in this article.

Another aspect of terminology felt to be important at the GPM and subsequently, was the use of hashtags. The Decade was already being referred to by IOC using the hashtag #OceanDecade. Consequently, a hashtag was adopted to link together heritage aspects of the Decade, #OceanDecadeHeritage. The document also flagged other relevant hashtags in common use that could be used alongside #OceanDecadeHeritage, including #CulturalHeritage, #HeritageScience and #archaeology. #OceansPast is commonly used to refer to the history of fishing and fisheries, or marine environmental history (#envhist) more generally, whilst #MarSocSci is used expressly for marine social sciences, including humanities (also #envhum—environmental humanities). As the intention was to raise awareness of the place of cultural heritage in marine sciences, it made sense to use the tools of social media to further this through the 1st GPM wherever possible.

The Initial Outline focussed on the Decade’s Societal Objectives because they provided the structure for the plenary and workshop sessions on Day 1 and Day 2 of the 1st GPM. These Societal Objectives are as follows:

1. A clean ocean.
2. A healthy and resilient ocean.
3. A predicted ocean.
4. A safe ocean.
5. A sustainably harvested and productive ocean.
6. A transparent and accessible ocean.

It is worth recalling that prior to the 1st GPM, cultural heritage was not referred to directly in any of the documentation relating to the Decade’s Societal Objectives. (The only references in the Roadmap to cultural heritage indicate potential stakeholders/end-users of marine data: under R&D Priority Area 6, the “social and human sciences”, and under Section 3.3.3 Other Key Stakeholders, “managers...working on cultural or natural heritage protection” (UNESCO n.d.c: 18, 25).] Hence, a key objective for archaeologists’ involvement in the 1st GPM was to demonstrate that cultural heritage is relevant to the whole spectrum of Decade objectives, themes, and priorities and that cultural heritage therefore should not be pigeonholed [e.g., SDG 14.5 (ecosystems) and SDG 14.7 (tourism in SIDS) contain targets that can only be reached if taking cultural heritage fully into account (SDG n.d.)]. The contention was that the Decade would be less effective in meeting its own intentions and contributing to the UN’s SDGs if it fails to encompass cultural heritage—a point which is returned to below.

In the Roadmap, the Societal Objectives were expressly related to the UN SDGs; the Initial Outline set out the scope of each Societal Objective together with their links to the SDGs. The Initial Outline then suggested the “headline contribution” of cultural heritage to each Societal Objective, taking the form of a preliminary statement that demonstrated the relevance of cultural heritage across the breadth of the Decade’s ambitions. These statements were as follows:

A clean ocean	<p>Cultural heritage can contribute to a clean ocean by enabling better understanding of the extent and risks of legacy pollution from shipwrecks, mining waste and land-based sources</p> <p>A clean ocean is also important for the long-term preservation of UCH</p>
A healthy and resilient ocean	<p>Culture heritage is fundamental to understanding how many coastal and marine ecosystems achieved their present form, and to understanding the pressures upon them</p> <p>Cultural heritage can be an important component of marine ecosystems</p>
A predicted ocean	<p>Understanding “Ocean Past”—human interaction with the historic environment—is essential to understanding our ocean present and to forecasting change and its implications for human well-being and livelihoods</p>
A safe ocean	<p>Cultural heritage informs the understanding of coastal inhabitation and intervention in the past and present—including the impact of previous catastrophes—to identify risks, present examples of human adaptations, and to encourage resilience</p>
A sustainably harvested and productive ocean	<p>Cultural heritage is a major contributor to the Blue Economy, especially through recreation and tourism; increasing productivity should enhance—not damage—irreplaceable cultural heritage</p>
A transparent and accessible ocean	<p>Information about cultural heritage is fascinating to the public and enables engagement with many topics of Ocean Literacy; information about cultural heritage is also essential to understanding the past, present and future of humanity’s relationship with the seas and oceans</p>

As well as the Societal Objectives, both the Roadmap and the meeting programme identified cross-cutting themes that were a focus on Day 3 of the 1st GPM, namely:

- Capacity building and technology transfer.
- Partnerships and financing.
- Access to information, data, and knowledge.
- Communication and awareness raising.

The Roadmap also identified Preliminary R&D Priority Areas, as follows:

1. A comprehensive map (digital atlas) of the ocean.
2. A comprehensive ocean observing system.
3. A quantitative understanding of ocean ecosystems and their functioning as the basis for their management and adaptation.
4. Data and information portal.
5. Ocean dimension in an integrated multihazard warning system.
6. Ocean in earth-system observation, research, and prediction, with engagement of social and human sciences and economic valuation.
7. Capacity building and accelerated technology transfer, training, and education, ocean literacy.

As noted above, cultural heritage was only noted in the Roadmap under R&D Priority Area 6 and Section 3.3.3, so again the intention was to show that cultural heritage had relevance in all of these cross-cutting themes and R&D Priority Areas. Time did not permit developing this in detail, but the Initial Outline started to sketch out examples of previous or current cultural heritage projects that embody relationships to the Decade's objectives, themes, and priorities in order to demonstrate that cultural heritage already has a track record in collaborating with and delivering broader marine science outcomes (some already highlighted in the Introduction to this article). Further, the Initial Outline also indicated what future projects and partnerships might be developed within the framework of the Decade.

With an internationally recognised museum hosting the 1st GPM, the holding of the side event, and the presence of a relatively high number of marine archaeologists among the participants, it is quite clear that cultural heritage was better recognised by the end of the GPM than before. Immediate recognition came in the form of an IOC press release, which included the following:

“The underwater cultural heritage side event sought to integrate the social sciences and the human dimension into each of the Decade objectives. An inseparable part of the marine and coastal environments, the physical remains of past human interactions with the sea can inform the present, and help us understand future patterns regarding pollution, sea-level rise and other hazards.” (UNESCO 2019a).

Subsequently, the Summary Report of the 1st GPM made several positive statements about cultural heritage:

“Research priorities include: ... 11) How cultural heritage is impacted by different forms of pollution.” (Clean Ocean) (UNESCO 2019b: 3).

“Cultural data needs to be taken into account including the use of data on historical ecological and human conditions; for example, there is millennia of historical data on how people have caused and adapted to ocean change.” (Access to data, etc.) (UNESCO 2019b: 14).

“Archaeologists working in North and South America, Africa, Europe, Asia and Oceania attended the Copenhagen meeting, providing the core for an Ocean Decade Heritage Network that will grow in coming years to help support planning and implementation of the Decade. Cultural heritage will be at the forefront of developing the new narratives that are necessary to deliver the ocean we want.” (Communicating the Decade) (UNESCO 2019b: 15).

In addition to these direct statements relating cultural heritage to the Decade, other aspects of the 1st GPM indicated where cultural heritage could play an important role. Repeatedly, statements were made about the need for the Decade to engage with marine social sciences as well as natural sciences, extending in some contributions to include the humanities also. Further strong and well received points were made also about the need for a “new narrative” for the ocean (Lubchenco and Gaines 2019), which necessarily entails talking about the past as well as the future. Discussion about habitat “restoration” and climate change indicators also took on the archaeological perspective that it was not possible to turn back time in terms of human interventions, only to go forward in a better way. These and other contextual details suggested an openness and interest in planning the Decade for cultural heritage to contribute.

Since the 1st GPM there have been further encouraging signs, notably at the International Conference on Underwater Cultural Heritage at Brest 17–19 June 2019 hosted

by UNESCO and DRASSM. The conference in Brest was attended by Vladimir Rya-binin, Executive Secretary of IOC, who presented on the Decade and suggested that IOC could support a thematic workshop on the Decade and UCH, and invited collaboration between the Decade's EPG and the Convention's STAB. Further, at the 7th Meeting of the UNITWIN Underwater Archaeology Network immediately following at Brest, the Decade was discussed in regard to the members' contribution to the initiative through research and capacity building, a commitment that was similarly made by UNESCO's UCH Accredited NGOs (UCH-NGO n.d.). At the 7th Meeting of States Parties to the Convention held in Paris 20–21 June 2019, many members voiced their encouragement to take UCH into account in the implementation of SDG 14 and the Decade.

Next Steps

Whilst the likely shape of the Decade—and the place of cultural heritage within it—remains in flux, the authors wish to continue to raise awareness in the cultural heritage community about the Decade, and to encourage participation by archaeologists not only in international efforts but also in regional and national programmes inspired by the Decade (including the possibility of building more extensive links to "regional stakeholders" by also approaching IOC regional hubs and offices⁴).

To this end, we established an "Ocean Decade Heritage Network"—as referred to in the Summary Report of the 1st GPM—to facilitate contact and communication between archaeologists, marine scientists, and related stakeholders. As a platform for sharing information, a website has now been established: www.oceandecadeheritage.org. The authors are already looking at possibilities for obtaining financial support for the Ocean Decade Heritage Network, to enable it to take a proactive role. We want to ensure that archaeologists, individually and through their own institutions and networks, are enabled to engage constructively with the marine sciences over the next ten years under the auspices of the Decade, and to make the best of the opportunity that the Decade presents.

The relevance of cultural heritage to the Decade arises because of the direct link it makes between ocean science and sustainable development. As was stated repeatedly at the 1st GPM, the Decade was not about ocean science for its own sake, but for sustainable development. Throughout the Decade, a direct link is being made between science and policy; ultimately, between science and tangible changes in the world's conditions. The directness of this relationship is manifest in the Decade having Societal Objectives that link directly to the SDGs. Unfortunately, cultural heritage receives little direct attention in the SDGs themselves, represented by an explicit target only under SDG 11 "Make cities and human settlements inclusive, safe, resilient and sustainable" through target 11.4: "Strengthen efforts to protect and safeguard the world's cultural and natural heritage" (UN n.d.). However, it is clear that the knowledge generated and developed by cultural heritage preservation about materials and societies of the past has a significant role in delivering many of the SDGs, in the same way that the authors have been making

⁴ Three sub-commissions of the IOC (IOCARIBE, IOCAFRICA, and WESTPAC) have served as hubs for organizing regional events and international gatherings. The WESTPAC meeting in Tokyo in July–August 2019, for example, follows the outline of the 1st GPM (WESTPAC 2019). There are IOC project offices in Apia (Samoa), Bangkok (Thailand), Cartagena (Colombia), Copenhagen (Denmark), Jakarta (Indonesia), Kingston (Jamaica), Nairobi (Kenya), Muscat (Oman), Perth (Australia), and Port-au-Prince (Haiti).

the case that cultural heritage is central to delivering the Decade's Societal Objectives. Work to elaborate the relationship between cultural heritage, the SDGs, and the Decade is already underway (e.g., Henderson in press) and will continue to be a priority, and is especially critical to emphasise at the next SDG 14 implementation conference in Lisbon, Portugal, in June 2020 (UN 2019).

The Initial Outline prepared for the 1st GPM has served its primary purpose and now will form the basis for developing a “position paper”—or even an initial Research Framework—on cultural heritage and the Decade for submission to the IOC's EPG. If published, such a document could serve to support the rationale for individual funding bids relating to cultural heritage in the Decade.

Other actions that are being discussed include the following:

Create a brief “mapping exercise” of the different institutions involved in (marine) cultural heritage internationally / nationally, indicating their scope and remit. Such mapping would help in communicating with marine science bodies, demonstrating relevance and existing connections. In parallel, it might be helpful to map-out the funding landscape for marine archaeology, especially to help identify sources that might not regard marine archaeology as within scope unless framed in relation to wider objectives, including those of the Decade.

Generate specific actions on building capacity and representation over the Decade: North-South; across genders; inter-generational and so on. Capacity and representation were common themes in the discussions at the 1st GPM and are relevant in marine archaeology too. There is also a need to encourage more marine archaeologists to engage with the “science-policy interface”, to ensure continuity of engagement with the legal and political structures that frame ocean science. A further point emphasised at the 1st GPM was the relationship between capacity and knowledge transfer / technology transfer. It is also the case in marine archaeology – which is benefiting so greatly from technological advances – that transfer of technology needs to be accompanied by knowledge transfer to enable people to use and interpret new equipment locally, not build-in reliance on external assistance.

Develop “Essential Heritage Variables”, i.e., basic metrics to help characterise the state of knowledge, condition, and value of marine cultural heritage around the world. This is far from straightforward, but an absence of reasoned quantifications will cause cultural heritage to be omitted from the influential infographics and matrices that often drive priorities for policy and research. This could be linked, perhaps, to some mapping of marine heritage data infrastructure internationally, which undoubtedly has many gaps. The European Marine Observation and Data Network (EMODnet n.d.) could be an example of a path forward, indicating types of data being collated internationally that can be applied or reused archaeologically, and already including supranational mapping of heritage data such as submerged landscapes.

Construct a “vision” for Ocean Heritage in 2030. This may not be easy to agree on, but there is a need to clearly articulate a positive statement about aspirations for understanding and managing (marine) cultural heritage by the end of the Decade. Importantly, this vision should be framed in a way that demonstrates the value of heritage to ocean science and delivery of SDGs. This is the line that has already been taken in actions in relation to the Decade so far, but it must not be lost sight of. Developing a vision for Ocean Decade Heritage will also provide an

opportunity to consider causality – precisely how actions relating to heritage will have consequences for ocean sustainability – which will help to maintain engagement between cultural heritage and ocean science after the Decade concludes.

Prepare an initial statement on engagement, both with the public and with politicians / policy-makers. The need for engagement was another strong message from the 1st GPM, but the archaeologists present felt that cultural heritage was already well along the road of engagement, conceptually and practically. Developing exemplars and case studies showing the range and effectiveness of existing cultural heritage engagement – with examples of citizen science (such as the GIRT Project; GIRT n.d.), accessible publication, events, online resources, interpretation, media, advocacy, and so on – could help demonstrate how marine archaeology can be a driver for marine sciences.

Conclusion

This article is an important step in raising awareness in the archaeological community of the UN Decade of Ocean Science for Sustainable Development 2021–2030. As already indicated, the Decade will likely be a distributed programme and archaeology requires an approach that is also distributed in order to engage. Rather than give the lead on archaeological engagement with the Decade to any one of the institutions and networks that already exist, we believe that we must work between existing structures as well as through them. The authors represent various institutions that have enabled us to take part so far, but we feel it is important that engagement in the Decade is “owned” by the emerging Ocean Decade Heritage Network as a whole, to be truly global and to make space for voices and perspectives that may not be as well represented by existing institutions. We anticipate that marine archaeologists, universities (as illustrated through but not exclusive to the UNITWIN network), NGOs, and national authorities will want to play a big role in the Decade, but there are also other active sectors—including local authorities and professional archaeological services—that should be encouraged to bring their expertise to bear too. Connections also need to be made between marine archaeologists and researchers in disciplines that address cultural heritage—including intangible heritage—in the marine sphere. The Ocean Decade Heritage Network could play an important role in, for example, facilitating greater connectivity with coastal and environmental social sciences and humanities.

The Decade presents a once-in-a-generation opportunity for cultural heritage even if cultural heritage is not included within the formal scope of the Decade. As indicated, progress has already been made and the signs indicate that cultural heritage will feature explicitly in the plan for the Decade. But even if cultural heritage slips down the list of the Decade’s priorities and falls out of the planning documentation, the marine science that the Decade inspires and encourages will still present opportunities for archaeology; the need for an Ocean Decade Heritage Network might be all the greater if cultural heritage is marginalised. Of course, as archaeologists we have a choice not to engage if we find our discipline lies beyond the scope of the Decade; we have our own programmes and priorities to pursue. But if cultural heritage is to have any traction in wider marine sciences between 2021 and 2030, and arguably in other social contexts, it is likely that we will have to align with the Decade to some degree. If every marine archaeologist in every country engages in the Decade, the voice of cultural heritage research and its value to our society can be

magnified. By the simple action of describing existing projects in the terms of SDGs and Societal Objectives and sharing that data through the Ocean Decade Heritage Network, we can contribute, and demonstrate to have contributed, positively to the outcomes of this Decade.

Although IOC has been tasked by the UN General Assembly with developing a plan for the Decade, it should be recognised from the start that IOC has limited means and that, when it comes to implementation, the Decade is likely to take effect through national and regional programmes, and across public, private, and philanthropic sectors. This fractured approach enables a nimble group such as the Ocean Decade Heritage Network to coordinate global marine archaeology community response. In such circumstances, the seemingly disparate and diffuse character of our discipline may prove—with a little extra communication and co-ordination—to be a strength.

So far, this article has framed the relationship between the Decade and cultural heritage as one of opportunity: the Decade presents a prospect of prolonged and intensive investigation of our oceans in which archaeology can take part. But at the 1st GPM, the approach adopted by the participating archaeologists was to stress the opposite: that here was an opportunity for the marine sciences to take onboard cultural heritage concerns and perspectives in order to deliver marine science objectives. Indeed, the contention went further, that without engaging with cultural heritage, the marine sciences could not fully meet their objectives. In brief, the contention was not just “how can cultural heritage help deliver the Decade?” but “without cultural heritage, how can you deliver the Decade?” Confidence in the societal value of our discipline is key to ensuring that insights from studying the past can play a full role in shaping the “ocean we want”. Working together with marine scientists over the course of the Decade should enable practical recognition of the mutual interdependence of marine science and marine archaeology; our overriding objective might be to ensure that by 2031 we no longer need to lobby for the place of cultural heritage in international scientific initiatives.

Acknowledgements The authors would like to thank Henrik Enevoldsen and Julian Barbière (IOC) for their immediate and sustained support of NMD’s efforts to integrate cultural heritage within the Decade’s initiatives, as well as the Decade’s EPG who have embraced this endeavour. We are grateful for the generous support of the Carlsberg Foundation in facilitating the 1st GPM in Copenhagen and the Open Access publication of this article. In addition, we would like to acknowledge the important support of the Honor Frost Foundation, Anna Enemark, Secretary-General of the Danish National Commission for UNESCO, Carsten Staur, Denmark’s Permanent Delegate to UNESCO, and Rane Willerslev, Jesper Stub Johnsen, Peter Rasmussen, and Claudia Sciuto of NMD.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

References

- Alvik R, Tikkanen S, Palma P, Gregory D, Leino M, Jöns H, Wessman S, Cederlund CO, Oosting R, Kresse W, Manders M, Lüth F (2004) Moss: monitoring, safeguarding and visualizing north-european shipwreck sites: common european cultural heritage—challenges for cultural resource management. The National Board of Antiquities, Helsinki
- Björdal CG, Gregory D (eds, with assistance from Trakadas A) (2011) *Wreck Protect. Decay and protection of archaeological wooden shipwrecks*. Archaeopress, Oxford

- Church R, Warren D, Cullimore R, Johnston L, Schroeder W, Patterson W, Shirley T, Kilgour M, Morris N, Moore J (2007) Archaeological and Biological Analysis of World War II Shipwrecks in the Gulf of Mexico: artificial reef effect in deep water. OCS Study MMS 2007–2015. U.S. Dept. of the Interior, Minerals Management Service (now Bureau of Ocean Energy Management), Gulf of Mexico OCS Region, New Orleans, LA. <https://www.boem.gov/ESPIS/4/4239.pdf>. Accessed July 2019
- CPUCH (n.d.) 2001 UNESCO convention on the protection of the underwater cultural heritage. <https://unesdoc.unesco.org/ark:/48223/pf0000124687.page=56>. Accessed July 2019
- Ehlers P (2000) The intergovernmental oceanographic commission: an international organisation for the promotion of marine research. *Int J Mar Coast Law* 15(4):533–554
- EMODnet (n.d.) The European marine observation and data network. <https://www.emodnet.eu/>. Accessed July 2019
- GIRT (n.d.) Gathering information via recreational and technical (GIRT) scientific divers. <https://www.girts.d.org/>. Accessed July 2019
- Gregory D, Manders M (eds) (2015) Best practices for locating, surveying, assessing, monitoring and preserving underwater archaeological sites. SASMAP Guideline Manual 2. SASMAP Project, Amersfoort
- Henderson JC (in press) Oceans without history? Marine cultural heritage and the sustainable development agenda. *Sustainability* 11(16)
- Lubchenco J, Gaines SD (2019) A new narrative for the ocean. *Science* 364(6444):911
- Manders M, Oosting R, Brouwers W (2009) MACHU final report. Educom Publishers BV, Rotterdam
- MarPlastic (n.d.) Marine Plastic. The Danish center for research in marine plastic pollution. https://marineplastic.dk/home_en.html. Accessed July 2019
- Remains (n.d.) REMAINS of Greenland: REsearch and Management of Archaeological sites IN a changing environment and Society. <https://www.remains.eu/>. Accessed July 2019
- RFD (n.d.) Rising from the depths network. <https://risingfromthedepths.com/>. Accessed July 2019
- SDG (n.d.) UN's Sustainable Development Goal 14. <https://sustainabledevelopment.un.org/sdg14>. Accessed July 2019
- Trakadas A, Mhammdi N (eds) (2018) Recommendations for best practices in data acquisition methods for natural and cultural heritage management of Moroccan coastal wetlands/Recommandations pour les bonnes pratiques en matière de méthodes d'acquisition de données pour la gestion du patrimoine naturel et culturel des zones humides côtières marocaines. Archaeopress, Oxford
- UCH-NGO (n.d.) UCH Accredited Non-Governmental Organizations. <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/partners/accredited-ngos/>. Accessed July 2019
- UN (n.d.) UN's sustainable development goals knowledge platform. <https://sustainabledevelopment.un.org/>. Accessed July 2019
- UN (2019) United Nations General Assembly. Resolution adopted by the General Assembly on 9 May 2019. A/RES/73/292. <https://undocs.org/a/res/73/292>. Accessed July 2019
- UNCLOS (n.d.) 1982 UN Convention on the Law of the Sea. https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf. Accessed July 2019
- UNESCO (2019a) Press release: an ocean science decade to meet the needs of all, 17 May 2019. <https://en.unesco.org/news/ocean-science-decade-meet-needs-all>. Accessed July 2019
- UNESCO (2019b) June 2019, Summary report of the first global planning meeting: UN decade of ocean science for sustainable development, 13–15 May 2019. National Museum of Denmark, Copenhagen. Decade Reports and Documents No.4. https://oceandecade.org/assets/uploads/documents/GPM_SummaryReport_V9FINAL_1563800523.pdf. Accessed July 2019
- UNESCO (n.d.a) Decade of ocean science for sustainable development (2021–2030). <https://en.unesco.org/ocean-decade>; <https://www.oceandecade.org>. Accessed July 2019
- UNESCO (n.d.b) United Nations decade of ocean science for sustainable development (2021–2030). Preparatory Process. <https://en.unesco.org/ocean-decade/preparatory-process>. Accessed July 2019
- UNESCO (n.d.c) Revised Roadmap for the UN Decade of Ocean Science for Sustainable Development. IOC/EC-LI/2 Annex 3. <https://unesdoc.unesco.org/ark:/48223/pf0000265141>. Accessed July 2019
- UNESCO (n.d.d) United Nations decade of ocean science for sustainable development (2021–2030). 1st Global planning meeting. <https://en.unesco.org/1st-global-planning-meeting>. Accessed July 2019
- Veth P, Richards V, Philippou C, Rodrigues J, Staniforth M, Khan A, Viduka A, Zubrzycka A, Harvey P, Parkinson J, MacLeod I, Shefi D, Barham A, Creagh D (2016) The Australian Historic Shipwreck Preservation Project—the in situ preservation and reburial of the colonial trader Clarence (1850)—Excavation and monitoring programme report 2012–2015. The Australian Historic Shipwreck Preservation Project 2016, East Perth
- WESTPAC (2019) Regional planning workshop for the North Pacific and Western Pacific Marginal Seas. Conference Programme. <https://file.iocwestpac.org/for%20download/Programme%20book%20-final%20revision.pdf>. Accessed July 2019

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Affiliations

Athena Trakadas¹ · Antony Firth² · David Gregory¹ · Dolores Elkin³ · Ulrike Guerin⁴ · Jon Henderson⁵ · Jun Kimura⁶ · Della Scott-Ireton⁷ · Yvonne Shashoua¹ · Chris Underwood⁸ · Andrew Viduka⁹

Antony Firth
ajfirth@fjodr.com

David Gregory
david.john.gregory@natmus.dk

Dolores Elkin
lolielkin@hotmail.com

Ulrike Guerin
u.guerin@unesco.org

Jon Henderson
jon.henderson@nottingham.ac.uk

Jun Kimura
junkimura@tsc.u-tokai.ac.jp

Della Scott-Ireton
dscottireton@uwf.edu

Yvonne Shashoua
yvonne.shashoua@natmus.dk

Chris Underwood
cju@hotmail.co.uk

Andrew Viduka
akudiv@gmail.com

¹ Environmental Archaeology and Materials Science, National Museum of Denmark, I.C. Modewegs Vej, 2800 Kgs. Lyngby, Denmark

² Fjodr Ltd./Honor Frost Foundation Steering Committee On Underwater Cultural Heritage, Wiltshire, UK

³ National Scientific and Technical Research Council, National Institute of Anthropology, Buenos Aires, Argentina

⁴ Secretariat of the 2001 Convention on the Protection of the Underwater Cultural Heritage, UNESCO, Paris, France

⁵ Underwater Archaeology Research Centre, University of Nottingham, Nottingham, UK

⁶ Department of Maritime Civilizations, Tokai University, Shimizu, Japan

⁷ Florida Public Archaeology Network, University of West Florida, Pensacola, FL, USA

⁸ ICOMOS International Committee on the Underwater Cultural Heritage, Buenos Aires, Argentina

⁹ Archaeology Department, University of New England, Armidale, NSW, Australia